

REMARKS

Reconsideration of the application is requested in view of the above amendments and the following remarks. Claims 11 and 46 are canceled without prejudice or disclaimer. Claims 1-3, 9, 10, 12, 13, 19, 21, 27, 28, 35, 39-41, 43, 45 and 51 are amended. All of the amendments to claims are supported by at least Figures 1-4 and the related description to those Figures in the present specification. Claims 47-50 are allowed and the allowable subject matter of claim 46 has been added to claim 45. No new matter has been added.

Objections

Claims 9 and 21-26 were objected to under 37 C.F.R. 1.75(a). Claim 9 has been amended to clarify the slot feature. Claim 21 has been amended to provide proper antecedent basis for the claimed limitations.

§ 102 Rejections

Claims 1, 2, 4, 11-13, 15, 16, 18, 20, 27, 28, 30, 31, 33-35, 37, 43, 51 and 53 were rejected under 35 U.S.C. §102(b) as being anticipated by Darnand (US 5,100,317). Applicant respectfully traverses this rejection.

Darnand discloses a cupel 6 that holds a curable material and is removable connected to a cup 3 using a clamp screw 12 and a lug/notch feature 9, 4. The cupel 6 includes a conical recess 10 designed to cooperate with the point 11 of the screw 12. The cupel 6 and cup 3 are secured together by first inserting the lug 9 into the notch 4 and then resting a peripheral shoulder 7 of the cupel against a top mounting surface of the cup 3. With the cupel positioned within the cup, the screw 12 is rotated until the point 11 engages within the conical recess 10.

Darnand fails to disclose "a single piece encasement member having a side wall defining a cavity in which the stone model is cast, . . . and structure extending from the side wall into the cavity that fixedly retains the stone member within the cavity," as required by claim 1. As discussed above, the cupel 6 disclosed by Darnand, which defines the cavity within which the stone 13 is cast does not include a structure that extends into that cavity. Therefore, Darnand fails to disclose every limitation of claim 1 and the claims that depend from it.

Darnand also fails to disclose an encasement member having "a concave, hemispherical shaped socket at said first end and a latch receiver at said second end," as required by claim 2. As noted above, the recess 10 as disclosed by Darnand is conical shaped. Therefore, claim 2 is separately allowable over Darnand.

Darnand also fails to disclose "a structure that projects into the cavity and extends along a length of the cavity between opposing first and second ends of the encasement member, the structure being adapted to fixedly engage a cast dental model base formed in the cavity," as required by claim 13. As discussed above, the cupel 6 as disclosed by Darnand, which is configured to retain the stone base, does not include any projections into the cavity. Therefore, Darnand fails to disclose every limitation of claim 13 and the claims that depend from it.

Darnand also fails to disclose a single piece dental model base encasement member that includes a continuous wall having interior and exterior surfaces and "said exterior surface having a hemispheric concavity formed therein at a first end of the encasement member, said concavity adapted to receive a spherical connector," as required by claim 27. Darnand discloses only a conical recess 10 that is adapted to receive a pointed end of the screw 12. Therefore, neither the concavity nor the related connector disclosed by Darnand meets the limitations of claim 27 and the claims that depend from it.

Darnand also fails to disclose that the encasement member comprises "a latch receiver formed as a recess in said exterior surface at a second end of the encasement member," as required by claim 28, which is separate from the hemispheric concavity formed in the first end of the encasement member. The lug 9 pointed to by the rejection as being a latch member is a structure that protrudes from cupel 6 and is not a recess formed in the exterior surface. Darnand also fails to disclose that the concavity of the encasement member "is adapted to receive a spherical member connected to an articulator attachment plate and said latch receiver is adapted to engage a latch protrusion extending from said articulator attachment plate," as required by claim 35. Therefore, claims 28 and 35 are separately allowable over Darnand.

Darnand also fails to disclose an encasement member "including an attachment structure that projects into the cavity, the attachment structure being integrally formed with the wall" of the encasement member, or "an articulator directly connected to the encasement member," as

required by claim 43. Darnand discloses no structure that extends into the cavity that is configured to retain the curable stone. Darnand also discloses an articulator structure that connects to the cup 3 and not to the cupel 6. Therefore, Darnand fails to disclose every limitation of claim 43.

Darnand further fails to disclose the method of claim 51 that includes filling a cavity with uncured casting material wherein the cavity is defined by an encasement member that includes "a continuous wall having an interior surface that defines the cavity, the interior wall including a structure that protrudes into the cavity, the structure extending within a plane that is spaced between an upper and a lower surface of the encasement member." Therefore, Darnand fails to disclose every limitation of claim 51 and the claims that depend from it.

Claims 41 and 42 were rejected under 35 U.S.C. §102(b) as being anticipated by Dew (US 3,436,827). Applicant respectfully traverses this rejection.

Dew discloses a two-piece dental matrix for holding or reproducing a portion of a jaw in the process of fabricating a dental model. The matrix 10 defines a cavity in which a curable material is retained while the dental model is formed. The cavity is defined by at least three pieces: a horizontal base 12, a U-shaped wall 30, and an upstanding wall member 24. In particular, a wall that extends around a circumference of the cavity is defined by at least the U-shaped wall 30 and the upstanding wall member 24. Therefore, Dew fails to disclose "the cavity being defined by wall that extends continuously around an entire circumference of the cavity," as required by claim 41. Furthermore, Dew fails to disclose attachment of an attachment plate to an encasement member using a snap fit connection as required by claim 42. Therefore, Dew fails to disclose every limitation of claims 41 and 42.

§103 Rejections

Claims 3, 5-7, 16-18, 29, 30, 34, 35, 37, 38, 40, 52 and 53 were rejected under 35 U.S.C. §103(a) as being unpatentable over Darnand in view of Westdyk (US 5,360,337) and Ferrell (US 5,007,829). Applicant respectfully traverses this rejection.

Darnand fails to disclose or suggest every limitation of claims 1, 13, 27, 40 and 51 for at least those reasons discussed above. Westdyk and Ferrell fail to remedy the deficiencies of

Darnand as it relates to claims 1, 13, 27 and 51. Therefore, claims 3, 5-7, 16-18, 29, 30, 34, 35, 37, 38, 52 and 53 are allowable for at least the reason they are dependent upon an allowable base claim. Applicant does not concede the correctness of this rejection.

As discussed above, Darnand discloses a cup 3 used to couple a cupel 6 to an articulator structure. Darnand fails to disclose or suggest spherical or hemispherical recess sockets or a ball or spherical member configured to engage the recess. Darnand also fails to disclose an encasement member that includes "a ball at first end and a latch receiver at said second end, wherein said ball defines a hemispherical projection extending outward from the side wall, said ball being integrally formed with the side wall," as required by claim 3. Westdyk and Ferrell disclose dental model bases having recesses formed in one or more ends thereof. However, Ferrell and Westdyk each fail to disclose or suggest a hemispherical projection extending outward from the side wall of an encasement member. Therefore, Darnand, Westdyk and Ferrell fail to disclose or suggest every limitation of claim 3 for this separate reason.

Concerning claim 18, Darnand fails to disclose an encasement member configuration for attachment to an articulator attachment plate through a ball and socket connection at a first end of the encasement member and a latch receiver at a second end of the encasement member. Westdyk and Ferrell fail to remedy the deficiencies of Darnand as it relates to claim 18. Westdyk discloses direct connection of an articulator-connecting member 16 to a mold 18 that carries the stone dental model without an intervening attachment plate. Ferrell discloses direct connection of arms 22, 24 of an articulator to stone bases 11, 13 of the dental model. Ferrell fails to disclose or suggest an encasement member much less an attachment plate. Therefore, Westdyk and Ferrell fail to remedy the deficiencies of Darnand as it relates to claim 18. Darnand, Westdyk and Ferrell also fail to disclose or suggest every limitation of claims 29, 34, 35 and 53 for at least those reasons discussed above related to the limitations of claim 18.

Concerning claim 40, Darnand, Westdyk and Ferrell fail to disclose or suggest an encasement member "including a continuously extending rigid wall that defines a cavity adapted to receive uncured casting material; said rigid wall defining a structure projecting into the cavity, the structure including an undercut structure adapted to grip said casting material when it cures into a stone member." Therefore, claim 40 is separately allowable over the cited art.

Claims 5, 8, 9, 14, 17-19, 30, 31, 33, 40, 52, 54 and 55 were rejected under 35 U.S.C. §103(a) as being unpatentable over Darnand in view of Huffman (US 4,548,581). Applicant respectfully traverses this rejection.

Darnand fails to disclose or suggest every limitation of claims 1, 13, 27, 40 and 51 for at least those reasons discussed above. Huffman '581 fails to remedy the deficiencies of Darnand as it relates to claims 1, 13, 27, 40 and 51. Therefore, claims 5, 8, 9, 14, 17-19, 30, 31, 33, 52, 54 and 55 are allowable for at least the reason they are dependent upon and allowable base claim. Applicant does not concede the correctness of this rejection as it relates to these claims.

Darnand discloses connection of the cup 3 and a separate cup 2 to each other via a pivot connection. Darnand fails to disclose or suggest an encasement member that includes structure permitting it to be attached to an articulator with a ball and socket connection (claims 5, 17-18, 30, 31, 33, 40 and 53), a slot that receives an articulator tongue (claims 8 and 54), or an articulator attachment bar defining a slot for use in receiving the articulator tongue (claims 9 and 55). Huffman discloses attachment of an articulator to stone bases 12, 14 via tabs 52, 58 of the articulator and slots 54, 60 of the stone bases 12, 14. Huffman fails to disclose or suggest the use of slots or ball and socket type connecting configurations in an encasement member or for coupling the encasement member to either an attachment plate or directly to an articulator. Therefore, Huffman fails to remedy the deficiencies of Darnand.

Claims 10, 21, 23, 24, 26, 39 and 45 were rejected under 35 U.S.C. §103(a) as being unpatentable over Darnand in view of Marshall (US 3,702,027). Applicant respectfully traverses this rejection.

Darnand fails to disclose or suggest every limitation of claim 1. Marshall fails to remedy the deficiencies of Darnand as it relates to claim 1. Specifically, the device disclosed by Marshall makes it possible to remove the dental model M and the supporting base B from the base member 11 after the curable material has hardened. Therefore, the Marshall device does not result in the stone member and encasement member being inseparable as required by claim 1. Therefore, claim 10 is also allowable for at least the reason it is dependent upon an allowable base claim. Applicant does not concede the correctness of this rejection as it applies to claim 10.

Darnand also fails to disclose or suggest "a structure spaced between the upper support service and the lower support service that extends into the cavity," as required by claim 21. Marshall fails to remedy the deficiencies of Darnand as it relates to claim 21. The continuous wall defined in the base member 11 of Marshall includes an outer peripheral face 22 and an inner peripheral face 23 having a plurality of vertical prismatic ridges 24 separated by grooves 26. These ridges 24 and grooves 26 extend from the top of the base 11 toward the horizontal base 20 within the cavity 19. The structures 24, 26 are not "spaced between the upper support surface and the lower surface," as required by claim 21 because structure 24, 26 extend all the way to the top surface of the base member 11. This feature appears to be necessary in order to properly insert and remove the disposable liner member 12. Therefore, Darnand and Marshall fail to disclose or suggest every limitation of claim 21 and the claims that depend from it.

Darnand and Marshall also fail to disclose or suggest "the structure extending from the rigid wall within a plane generally parallel to the dental model support surface," as required by claim 39. The structures 24, 26 disclosed by Marshall are aligned vertically in a direction perpendicular to a plane of the upper most surface of the base member 11. Marshall fails to disclose or suggest any other structure that extends into the cavity 19 which would meet the limitations of claim 39. Therefore, Darnand and Marshall fail to disclose or suggest every limitation of claim 39.

Darnand and Marshall also fail to disclose or suggest every limitation of claim 45 because claim 45 has been amended to include the allowable subject matter of claim 46. Applicant does not concede the correctness of this rejection as it applies to claim 45.

Claim 22 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Darnand in view of Marshall and further in view of Dew. Applicant respectfully traverses this rejection.

As discussed above, Darnand and Marshall fail to disclose or suggest every limitation of claim 21. Dew fails to remedy the deficiencies of Darnand and Marshall as they relate to claim 22. Therefore, claim 22 is allowable for at least the reason it is dependent upon an allowable base claim. Applicant does not concede the correctness of this rejection.

Claim 25 was rejected under 35 U.S.C. §103(a) as being unpatentable over Darnand in view of Marshall (US 3,702,027) and further in view of Huffman (US 4,548,581). Applicant respectfully traverses this rejection.

Darnand and Marshall fails to disclose or suggest every limitation of claim 21. Huffman fails to remedy the deficiencies of Darnand and Marshall as they relate to claim 21. Therefore, claim 25 is allowable for at least the reason it is dependent upon an allowable base claim. Applicant does not concede the correctness of this rejection.

Claim 36 was rejected under 35 U.S.C. §103(a) as being unpatentable over Darnand in view of Dew. Applicant respectfully traverses this rejection.

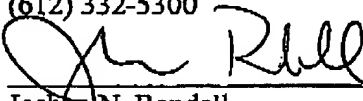
As discussed above, Darnand fails to disclose or suggest every limitation of claim 27. Dew fails to remedy the deficiencies of Darnand as it relates to claim 27. Therefore, claim 36 is allowable for at least the reason it is dependent upon an allowable base claim. Applicant does not concede the correctness of this rejection.

In view of the above, Applicant requests reconsideration of the application in the form of a Notice of Allowance. Please contact Applicant's attorney below if a phone conference would be of assistance in any way.

Respectfully submitted,

MERCHANT & GOULD P.C.
P.O. Box 2903
Minneapolis, Minnesota 55402-0903
(612) 332-5300

Date: April 27, 2005


Joshua N. Randall
Reg. No. 50,719
JNR:ae